

# Comparisons of Job Characteristics

**Focus Occupation:** [Natural Sciences Managers \(11-9121\)](#)  
**Associated Occupation:** [Environmental Engineers \(17-2081\)](#)

[Compare Knowledge](#)  
[Compare Skills](#)  
[Compare Abilities](#)  
[Compare Detailed Work Activities](#)  
[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

## Knowledge

Similarity of Focus Occupation to Associated Occupation: 63

**Focus Occupation:** Natural Sciences Managers (11-9121)  
**Associated Occupation:** Environmental Engineers (17-2081)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Engineering and Technology	5.7	21.7	11.4	<<	Extensive education and/or training may be required
Design	5.2	17.2	4.0	<<	Extensive education and/or training may be required
Mathematics	9.2	16.3	12.6	<<	Extensive education and/or training may be required
Chemistry	4.8	15.8	13.5	<	Expanded education and/or training may be required
Physics	4.3	15.7	7.1	<<	Extensive education and/or training may be required
Law and Government	5.9	13.6	12.1	<	Expanded education and/or training may be required
Building and Construction	4.0	13.0	4.3	<<	Extensive education and/or training may be required
Public Safety and Security	6.9	12.0	6.6	<<	Extensive education and/or training may be required
Biology	3.7	10.0	11.8	>	Current knowledge level is likely sufficient
Transportation	4.6	9.0	3.4	<<	Extensive education and/or training may be required
Geography	3.9	8.3	5.9	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Skills

Similarity of Focus Occupation to Associated Occupation: 77

**Focus Occupation:** Natural Sciences Managers (11-9121)  
**Associated Occupation:** Environmental Engineers (17-2081)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Reading Comprehension	10.7	16.4	15.6	0	Current skill level may be sufficient
Critical Thinking	10.8	14.5	13.8	0	Current skill level may be sufficient
Complex Problem Solving	9.1	13.9	11.6	<	A higher skill level may be required
Judgment and Decision Making	9.4	13.9	12.2	<	A higher skill level may be required
Systems Analysis	6.5	13.1	9.9	<<	Extensive development of skills in this area may be required
Mathematics	6.2	12.3	10.6	<	A higher skill level may be required
Systems Evaluation	6.4	11.7	9.8	<	A higher skill level may be required
Science	4.5	11.4	15.7	>>	Skill level is likely more than sufficient
Operations Analysis	5.0	11.0	13.6	>	Skill level is likely sufficient
Quality Control Analysis	5.9	10.4	3.6	<<	Extensive development of skills in this area may be required
Management of Financial Resources	3.3	7.2	8.9	>	Skill level is likely sufficient
Programming	2.2	5.6	3.9	<<	Extensive development of skills in this area may be required
Technology Design	2.6	5.5	7.6	>>	Skill level is likely more than sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Abilities

Similarity of Focus Occupation to Associated Occupation: 87

Focus Occupation: Natural Sciences Managers (11-9121)

Associated Occupation: Environmental Engineers (17-2081)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Problem Sensitivity	11.1	17.0	12.5	<<	Extensive improvement in abilities may be required
Deductive Reasoning	10.6	16.2	15.5	0	Current ability level may be sufficient
Oral Comprehension	12.5	16.1	17.8	>	Current ability level is likely sufficient
Written Comprehension	11.0	16.0	16.0	0	Current ability level may be sufficient
Inductive Reasoning	10.2	15.4	14.8	0	Current ability level may be sufficient
Information Ordering	9.9	14.2	11.9	<	Some improvement in abilities may be required
Category Flexibility	9.0	13.6	11.6	<	Some improvement in abilities may be required
Flexibility of Closure	7.8	13.5	6.9	<<	Extensive improvement in abilities may be required
Mathematical Reasoning	6.3	13.4	9.8	<<	Extensive improvement in abilities may be required
Perceptual Speed	7.4	11.9	6.3	<<	Extensive improvement in abilities may be required
Speed of Closure	5.9	11.2	4.3	<<	Extensive improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Activities that Both Occupations Have in Common

Similarity of Focus  
Occupation to Associated  
Occupation: 68

**Focus Occupation: Natural Sciences Managers (11-9121)**  
**Associated Occupation: Environmental Engineers (17-2081)**

Work Activities	Exclusivity of Activity
Adhere to safety procedures	12
Advise clients or customers	19
Analyze scientific research data or investigative findings	27
Communicate technical information	4
Confer with scientists	54
Develop plans for programs or projects	31
Develop policies, procedures, methods, or standards	21
Estimate time needed for project	64
Explain complex mathematical information	30
Prepare reports	8
Resolve engineering or science problems	46
Use library or online Internet research techniques	21
Use project management techniques	47
Use scientific research methodology	21

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Tools and Technologies that Both Occupations Have in Common

Similarity of Focus  
Occupation to Associated  
Occupation: 83

**Focus Occupation: Natural Sciences Managers (11-9121)**  
**Associated Occupation: Environmental Engineers (17-2081)**

Tools and Technologies	Exclusivity
Audio and visual equipment	4
Business function specific software	1
Computer printers	2
Computers	1
Content authoring and editing software	1
Data management and query software	1
Electrochemical measuring instruments and accessories	9
Gas analyzers and monitors	10
Hydrological instruments	31
Indicating and recording instruments	2

Industry specific software	1
Information exchange software	1
Liquid and solid and elemental analyzers	19
Network applications software	1
Sampling equipment	12
Soil measuring equipment	20
Temperature and heat measuring instruments	6
Viewing and observing instruments and accessories	4

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.